

CLAIMS:

1. A method comprising acts of:
 - providing a scheduler including a plurality of calendars used to determine when a frame is to be moved from a flow queue;
 - providing at least one search engine to search the calendars;
 - defining a tick period within which searching is to be completed;
 - determining calendars to be searched within the tick period;
 - searching with a search engine the calendars so determined; and
 - postponing search of any calendars so determined if postponed calendars could not be searched within the tick period.
2. The method of claim 1 further including:
 - the act of searching the postponed calendars in a tick period subsequent to the one in which searching was postponed.
3. The method of claim 1 wherein the calendars include time based calendars and non-time based calendars.
4. The method of claim 3 wherein the time based calendars are searched every tick cycle and non-time based calendars are searched when an item is attached or detached from a calendar location.

5. The method of claim 1 wherein the act of determining calendar to be searched further includes the acts of:
- providing a first register for storing bits indicating calendars whose current time (C_t) has changed during a tick cycle;
 - providing at least one counter with sufficient location to count to $\log_2 m$, wherein $\log_2 m = 2^m = \text{max number of locations in a calendar}$;
 - stepping the counter in accordance with a predefined pattern; and
 - adjusting contents of the first register based upon contents of the counter.
6. The method of claim 1 further including the act of tagging calendars whose search was postponed.
7. The method of claim 6 wherein tagging further includes the acts of providing a register with positions corresponding to the plurality of calendars; and
- setting a bit in position corresponding to calendars whose search has been postponed in a particular tick cycle.
8. A system for use in a network device comprising:
- a plurality of calendars with each calendar having a plurality of independent locations;
 - at least one search engine for searching said calendars operatively coupled to the plurality of calendars;

a controller operatively coupled to the calendars and the calendar search engine, said controller indicating calendars to be searched; and

within a time interval; and

a memory for storing identification of at least one calendar that was not searched within the time interval.

9. The system of claim 8 further including a scheduler for attaching identification numbers of flow queues to selected ones of the plurality of independent locations.
10. The apparatus of claim 9 wherein the plurality of independent locations are numbered 0 through 512.
11. The apparatus of claims 1 or 2 further including a first array for storing at least one indicia indicating a winning calendar.
12. The system of claim 11 including a second array for storing at least one indicia indicating a winning location within said winning calendar.
13. The system of claim 12 including final decision selector logic operatively coupled to the first array and the second array.

14. The apparatus of claim 11 wherein the at least one indicia includes a single bit operable to be set in one of two states.
15. The apparatus of claim 12 wherein the at least one indicia is a multi-bit representation.
16. The apparatus of claim 1 wherein the memory includes a FIFO buffer.
17. The apparatus of claim 16 further including a device that keeps track of active entries in said FIFO buffer.
18. The apparatus of claim 17 wherein the device includes a counter.